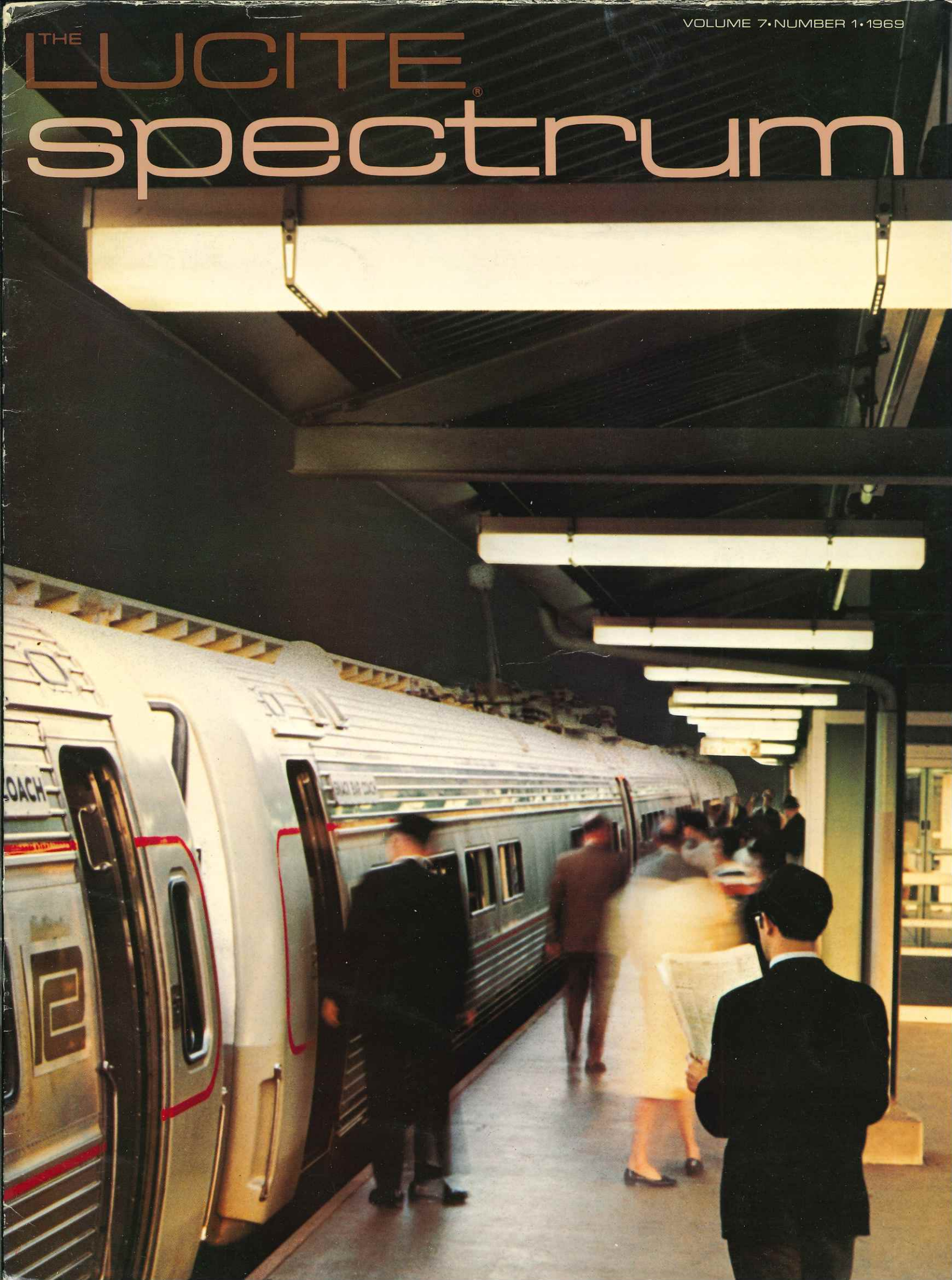
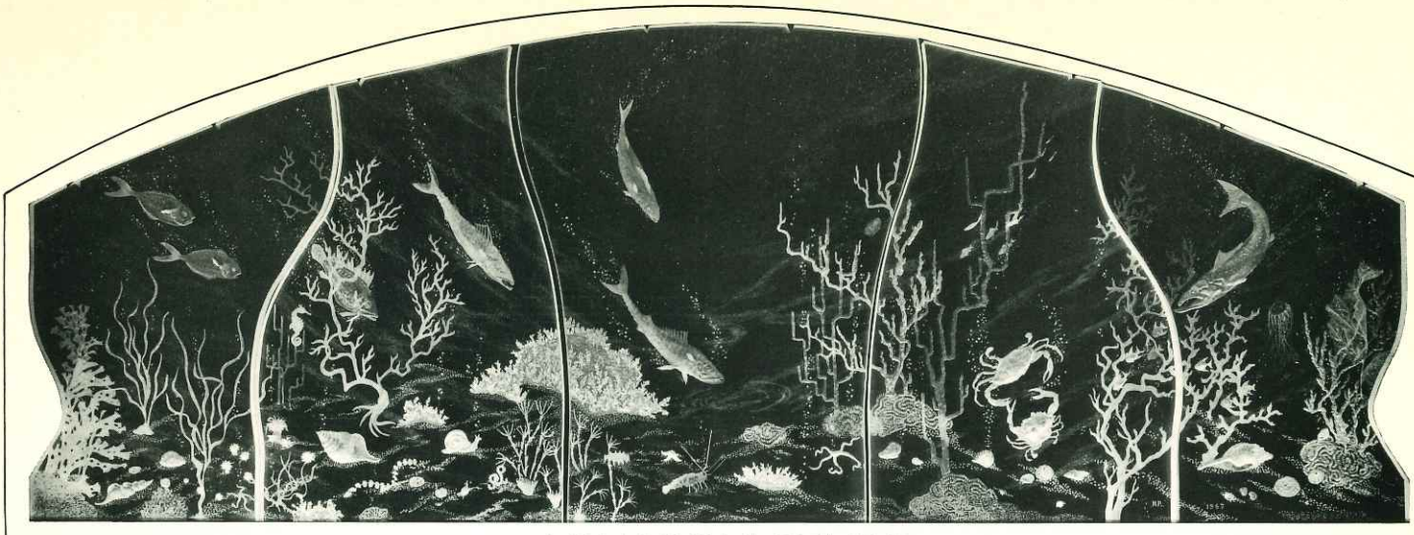
VOLUME 7 • NUMBER 1 • 1969

THE LUCITE® spectrum

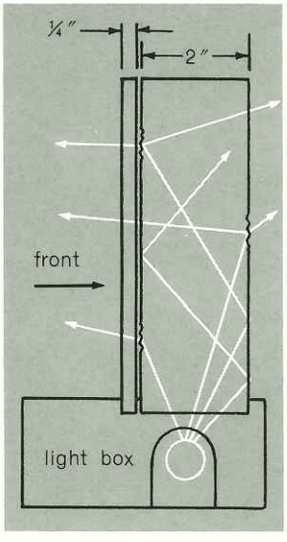




AQUASCULPTURE

This striking underwater scene was created by Mrs. W. Glasgow Reynolds of Wilmington, Delaware. A serious artist and sculptress, Mrs. Reynolds has often turned to acrylic sheet cast from LUCITE® as a medium, but this is her most ambitious acrylic sculpture to date.

Measuring 9-feet 8-inches by 3-feet 6-inches, the undersea landscape was made in five sections and mounted in one continuous light box along the bottom. Each section consists of two glossy surface acrylic sheets cast from LUCITE acrylic monomer. The sheet nearest the viewer is ¼-inch thick and the second sheet 2-inches thick. Part of the highly detailed carving was done on each side of the 2-inch sheet to create a feeling of perspective and depth in the finished sculpture.



Edge-lighted from below, the clear sheets of LUCITE conduct the light, emitting it only where the designs have been carved.

The carving is done with high speed power drills similar to a dentist's drill and must be extremely accurate. "Brightness of a cut," notes Mrs. Reynolds, "is dependent not only on size, but also on the direction of the cut in relation to the light source."

The sculpture is on permanent display in the Goldsborough Building, Wilmington, Delaware.

Light enters sculptured sheets from light box below at such an angle as to be captured in the sheet and reflected from the interface between sheet and air. When it strikes the roughened sculptured or etched surface, the angle is changed and the light escapes from the sheet and can be observed.

THE LUCITE® spectrum

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The purpose of THE LUCITE® SPECTRUM is to provide useful information on building construction products made with Du Pont LUCITE® acrylic plastic materials. This publication will be a medium through which ideas about these materials may be exchanged. Your comments and suggestions are invited. If you desire further information on any product mentioned in this issue, please write to: The Editor, THE LUCITE® SPECTRUM, Du Pont Company, 2420 Nemours Building, Wilmington, Delaware 19898.

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Better things for better living...through chemistry

EDITOR: R. F. WELSH, JR. • ART DIRECTION: R. L. DOWNES, J. C. PARRY • PRODUCTION SUPERVISOR: J. C. RECORDS

Random-sized rectangular panels cut from sheet cast from LUCITE® acrylic monomer help soften the onslaught of weather at Salem, Ohio's new Timberlanes Motel. In summer they create shade to help cool the rooms. In winter they block driving snow much like a picket fence. In all seasons, they protect the motel corridor from torrents of rain.

The colorful and unusual corridor screens fashioned from specially textured sheets cast from LUCITE acrylic monomer were incorporated into the design of the motel almost at the last minute. Original plans called for solid glass panels in the outside corridor walls, in effect creating closed passageways to the rooms on each floor.

Preferring an open corridor to add to the effect of spaciousness, the motel's owner-manager, Odess G. Paparodis, almost settled for conventional metal railings.

But after discussing this problem with the professionals on the job, Timberlanes' general contractor and architect, L. Hugh Webb of Youngstown, Ohio, along with Paparodis arrived at the solution—a sun screen made of acrylic plastic modules framed in aluminum. Paparodis was sold on this proposal from the start. It offered him exactly what he wanted —beauty in color and form, and protection for guests—without destroying the open quality he deemed so essential.

As architect Webb explained, "Because the building is in a downtown area and on the street, we wanted some means of providing privacy for guests walking along the corridors to their rooms. The acrylic plastic and aluminum structure provided an economical and practical means by which to achieve these ends. We picked a screen of random patterned plastic in mixed colors for added interest, and to contrast with the monolithic textured wall."

Plastic Products Company of Youngstown, Ohio, fashioned the huge screen from 1½-inch, square aluminum tubing. The panels made from LUCITE acrylic plastic were cut from ⅛-inch thick cast acrylic sheets with a random patterned surface and mounted in aluminum channel with vinyl gaskets. Four of the panels were 13 feet high and the remainder are 20 feet. Each section mounts on two pins at

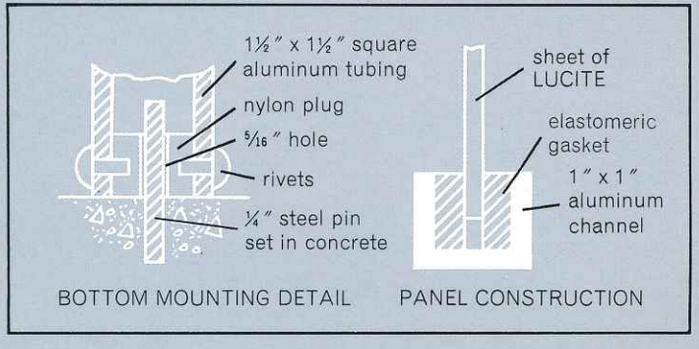
the base and is held in place by four bolts.

Paparodis marveled at the speed of installation of the screens, which is largely due to their light weight. He related that, "In those days I was having lunch daily with the job superintendent. When the screens arrived at 11:00 AM, I was surprised to hear him say that he'd be on time to eat at noon . . . he was true to his word—all 17 screens were in place and the job finished by 11:45 AM, and all this was done by only three men, two of whom were fitting and bolting the screens in place while the other one remained in the truck."

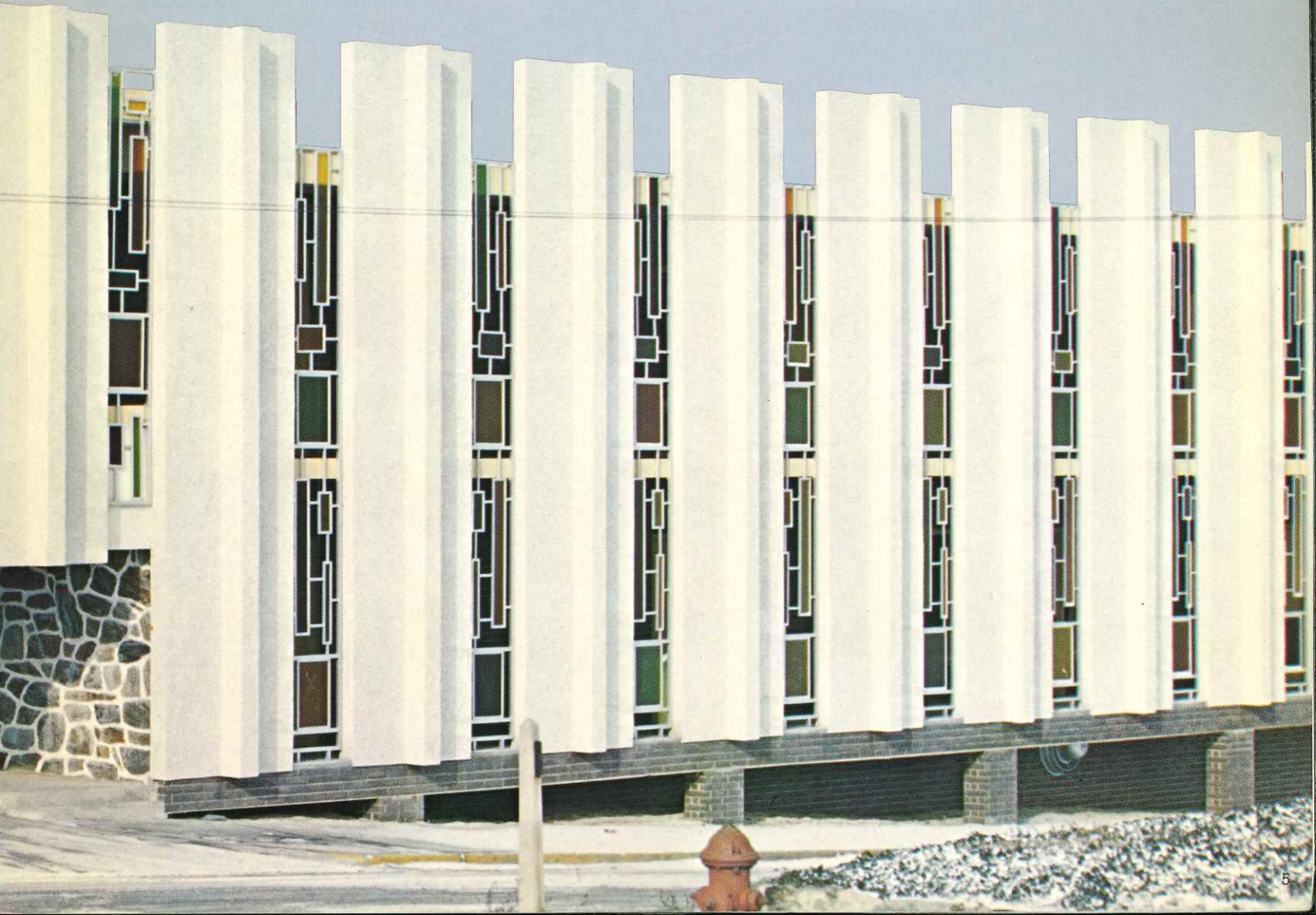
Paparodis is enthusiastic about the finished result. "The beauty of the wall is evident when the morning sun streams through the acrylic panels, playing rays of copper, green, yellow and amber light on the corridors, walkways and walls," he notes, "And at night, light shining through the panels from the corridor creates a pleasant cathedral-like view from the street."

Many people, guests and non-guests alike have photographed the wall. Paparodis attributes this interest in his sun screen to its unique quality as design. "It's just different," he remarked. "While most of the motels in this small community have no real emphasis, we've tried to be a little original, a little different. I wanted something that would look nice, and I got it."

Base of sunscreens is held firm by a pin mounted in the concrete and held by nylon plug in the aluminum tube. Acrylic sheets made of LUCITE are mounted in aluminum channels with an elastomeric gasket, leaving proper clearance for expansion and contraction.



a screen for all seasons



MANUFACTURERS HANOVER TRUST'S LUCITE®

The new building at 4 New York Plaza is 22 stories high, and has 35,000 square feet per floor. The owner, Manufacturers Hanover Trust Company, now occupies 17 floors for their clerical and computer operations, and will expand to the other five floors as necessary.

Lighting was a very important factor of the new building. Mr. David Larson, Vice President said, "Before going into this project, we conducted an extensive survey of other Manufacturers Hanover office areas. We wanted to measure available footcandles at the working level. And we found that the lowest was 45 footcandles at 44 Wall Street; the best was at the corporate headquarters, 350 Park Avenue.

"The selection of the lighting was a combination effort of the architect, Carson, Lundin and Shaw; the electrical engineers, Meyer, Strong and Jones; the building management firm, Cushman and Wakefield; and the bank." Mr. Larson said, "our main concern was that an illumination level of about 30 footcandles be achieved and that maintenance costs for the fixture be kept to a minimum."

To make sure that they were getting the correct light intensity, the architects, in conjunction with the Manufacturers Hanover Trust Company management, constructed a mock-up of a 2000-foot portion of the floor area. "This mock-up assisted us considerably," asserted Mr. Arvin Shaw III, partner in charge of design for Carson, Lundin and Shaw. "We were able to put up various sizes of fixtures to test their shapes; light shadow; bulb color; diffusers; and the light intensity at the working level. We were able to use the mock-up to test the 8'9" ceiling height with the actual fixture and the height of the desks that will be located under them," Mr. Shaw said. "This is how we evolved the 2 x 4-foot shape, which proved the most efficient and economical on a 20 x 30-foot module. We found that nine fixtures per module would give the right amount of light and the needed intensity."

The engineer for the project, Meyer, Strong and Jones of 230 Park Avenue, New York, were responsible for electrical, mechanical and plumbing installations in the building. Mr. Carl Eiden, a partner of the firm, supervised the engineering.

Various sizes and shapes were checked, since an order such as this for 10,000 units, will qualify for standard fixture price even on a custom-made fixture. Each of the two-by-four foot fixtures is an air handling unit with a ⅛-inch wide vent handling 80 cfm on the four-foot side. About 40% are air diffusers and 60% air returns.

"An important consideration contributing to the specification of this kind of lens is the fact that we required maximum accessibility to the tubes," Mr. Larson said. "Acrylic lenses are so light weight that one man can readily handle the fixture with no hazard from breakable glass; in addition, he can make any replacement installations without assistance. We think this is a real plus factor from the standpoint of maintenance costs."

Responsible for fabricating the lighting fixtures was the Frink Corporation of 211 63rd Street, Brooklyn, New York, subsidiary of Westinghouse Electric Company.

"We manufactured 10,000 fixtures for 4 New York Plaza," explained Marketing Vice President, Jerry Kaswan. "The housing is a standard fluorescent fixture measuring 2 x 4 feet with a depth of 7½ inches including the air diffusers.

"This is one of our larger jobs. Each fixture has four 4' long 40-watt warm white color lamps. The lens is 5/32" thick extruded acrylic with a C-12 prismatic pattern. The body is fabricated from 20 gauge steel and aluminum extrusions. There are no visible joints on the fixture, which means that there is a considerable amount of handwork involved.

"We describe this as a concealed hinge and latch unit which makes it easy for the maintenance crews to get at the unit to change lamps and make repairs," Mr. Kaswan said.

"In addition to this standard fixture, we fabricated several hundred 4' and 8' sections of wall washers which measure 8" deep and 8" across. These units run as far as 100 feet in length to light the corridors of the building. These use 3/16 inch thick diffusers made of LUCITE, with the same pattern.

"We had the acrylic panels manufactured to size and delivered to us by J. W. Carroll & Sons of Wilmington, Calif.," he said.

Manufacturers Hanover Trust is quite pleased with the final result. "We feel we have a fixture that meets the desired combination of easy maintenance, good light at working levels and maximum aesthetic effect," Mr. Larson concluded.

CREDITS: Manufacturers Hanover Trust Co. building, 4 New York Plaza, New York, New York (Mr. Dave Larson, Vice President) • Architect: Carson, Lundin & Shaw, New York, New York (Mr. Jaroslav Burbello, Project Manager) • Consulting Engineers: Meyer, Strong & Jones, New York, New York (Mr. Ralph Leon, Electrical Engineer) • Building Managers: Cushman Wakefield • Fixture Manufacturer: Frink Corp. of Brooklyn, New York Subsidiary of Westinghouse Electric • Lens Manufacturer: J. W. Carroll & Sons, Wilmington, California • Electrical Contractor: Arc Electrical Construction Co., New York, New York • General Contractor: George A. Fuller Co., New York, New York

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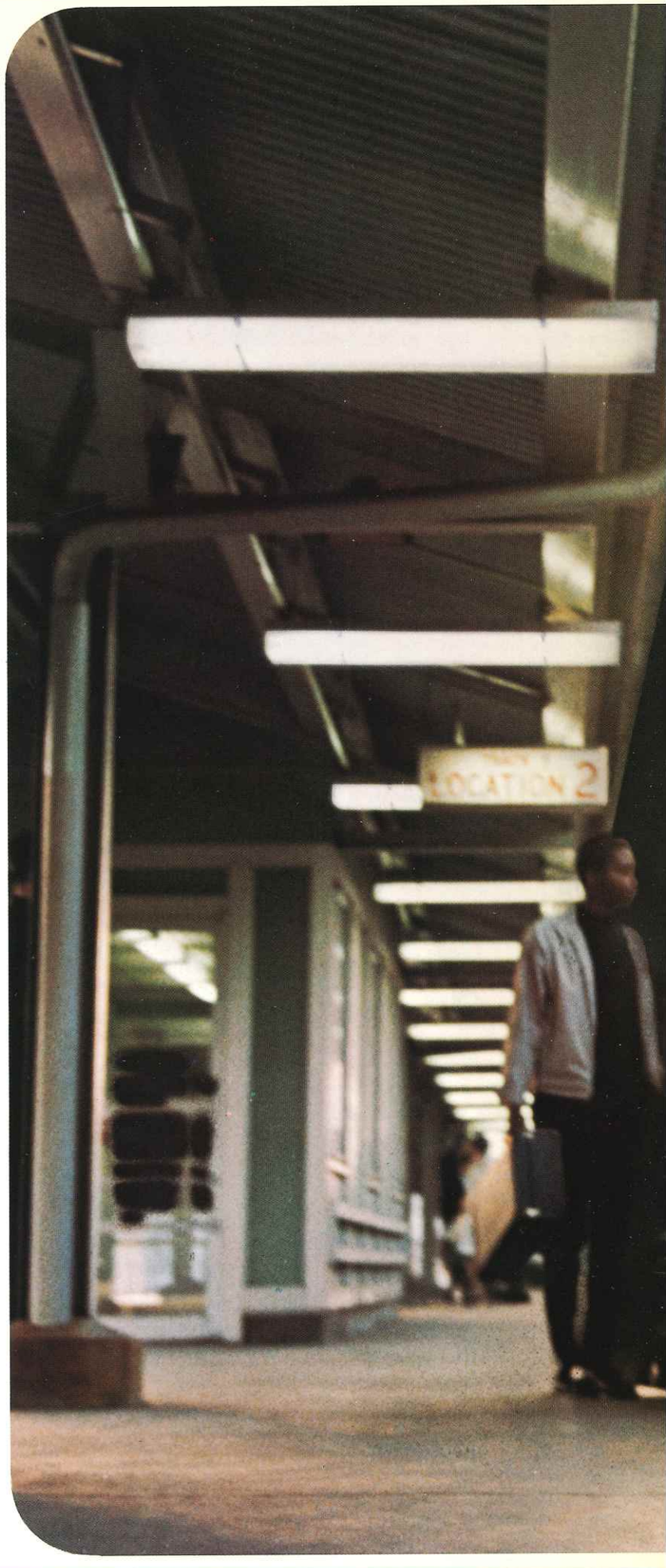
Frink fixtures with lenses extruded of LUCITE® by J. W. Carroll provide light and air to new Manufacturers Hanover Trust offices occupied just before Christmas.

Rebuilt platform for high speed service at Wilmington, Delaware Station of Penn Central is lighted to about five times the previous brightness level. The prismatic lens molded of LUCITE® provides even light distribution and good cut-off to reduce glare.



brighter picture for rail travelers

The Penn Central Metroliners now running (three trains each day) between New York and Washington are the latest attempt by the railroads to bolster their flagging passenger trade.

New, more luxurious cars, with telephones in each car so that you're never out of touch, hit speeds in excess of 100 miles per hour on rebuilt smoother roadbeds.

Platforms at several stations serving the Metroliners were rebuilt at a higher level for walk-on comfort with no stairs to climb, and platforms at Trenton, Philadelphia, Wilmington and Baltimore were relighted so the passengers could really see and would move efficiently.

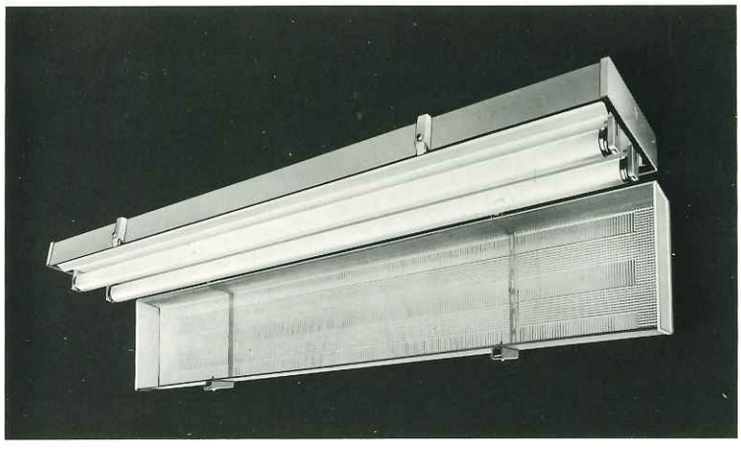
In relighting the platforms, lighting levels were increased up to five times their former levels by the use of modern sources and luminaires. Typical lighting levels of three footcandles delivered by incandescent bulbs in open porcelain enamel reflectors have been replaced by levels of 15 footcandles from modern fluorescent lights.

The main portion of the platforms are covered and are lighted with new four-foot-long fluorescent luminaires suspended by clamps from the roof structure. The Holophane fixtures each contain two 40-watt fluorescent lamps and the acrylic covers made of LUCITE® have a precise prismatic pattern molded in to provide maximum utilization of light when mounted on 20-foot centers. The prisms also control the brightness pattern, reducing glare to provide high visibility with comfort.

The lenses are weatherproof and the fixtures carry the UL enclosed and gasketed label and incorporate neoprene gaskets cemented to the luminaire housings. Lenses are secured against these seals with positive pressure by aluminum straps built into the lenses. The ends of the straps engage latches on both sides of the housing to permit opening from either side.

The vast improvement in trains, service and platform facilities presages a return to intermediate distance rail travel.

Holophane's number 7200 Prismatite fixture is dirt, dust, bug and water tight. The lens molded of LUCITE is held firmly against a closed cell neoprene gasket by the two lens straps. Fixture opens from either side for easy maintenance.



CHICKEN PANTRY

The Chicken Pantry franchise is a new unit of the very successful Red Barn restaurants but on a smaller scale. Whereas the Red Barn offers a varied, although limited, menu and on-premise dining facilities, the Chicken Pantry is strictly a take-out store offering fried chicken, but no sandwiches.

Mr. Richard O. Kearns, founder and President of Red Barn System, Inc., has guided it to its present level of more than 240 locations in seven years by adhering to a basic philosophy of rigid quality control to assure serving the finest food, and a strong identification program. He expects similar growth for the new Chicken Pantry operation and depends on a sign face of Swedcast acrylic sheet made from Du Pont LUCITE® acrylic monomer for the strong identification.

The buildings for the Chicken Pantry units are 22 feet wide and 40 feet long, featuring brick and glass, and they can be located on a comparatively small lot because the parking demands are not great.

In the design of the Chicken Pantry building, the Red Barn System has made the identifying signs on the building integral parts of the structure. The building has a mansard roof design and the facing of this roof structure is made up of the actual signs.

In bright yellow and red, these signs say: CHICKEN PANTRY on the long side of the building and COUNTRY FRIED CHICKEN on the shorter side. In smaller lettering are identifying logos of the Red Barn System.

The signs are purchased on an installed basis from Tencon Corporation, Centerville, Tenn., who manufactures the signs and then employs a local company to erect them. The signs are made as a single-faced, internally illuminated unit and mounted on A-frame supports on the roof at a 60° angle. The front consists of two 10-foot long and two 9-foot long panels and the corners. Each panel is hinged at the top so that it can be opened for cleaning or lamp replacement. Lamps used to light the signs are 60-inch, T-12 high output cool white fluorescents.

The sheet used for the sign face panels is made by Swedlow, Inc., Garden Grove, California, using Du Pont LUCITE® acrylic monomer. Swedcast sheets are available in widths up to eight feet and unlimited length and provide excellent thermoforming characteristics.

The panels are thermoformed with the "Red Barn" and "Chicken Pantry" symbols as well as the 36-inch high letters of the words "Chicken Pantry" raised above the surface. This provides added rigidity to the sheet as well as definition to the letters. All signs are back painted.

COVER: (below) Penn Central's new Metroliners and platforms with new lighting fixtures with lenses made of LUCITE® add up to "A Brighter Picture for Rail Travelers". See page 8.

The cover of the last issue showed replicas of coins cast in plaques of LUCITE acrylic plastic. The display was designed and executed by Boston artist, Ernst Halberstadt. The 2′ x 2′ x 1¼″ plaques were cast of LUCITE by Clearfloat, Inc., Attleboro, Mass. on coin replicas sculptured by Mr. Halberstadt.

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